REMARKS

It is respectfully requested that this application be reconsidered in view of the above amendments and the following remarks and that all of the claims remaining be allowed.

Claim Amendment

Claims 70 and 71 have been canceled without prejudice or disclaimer.

Claims 66, 72 and 80 have been amended to recite hemopoietic growth factors (HeGFs), insulin, nerve growth factor (NGF), NGF receptor, epidermal growth factor (EGF) receptor, neu, inhibin α, inhibin β, Müllerian inhibitory substance, tumor necrosis factor (TNF)-receptor (type 1), TNF-receptor (type 2), platelet-derived growth factor (PDGF) receptor α, PDGF receptor β, wnt-2, hst/ks3, hepatocyte growth factor (HGF) receptor (c-met), stem cell factor (SCF), SCF receptor (c-kit), erythropoietin (epo), epo receptor, and leukemia inhibitory factor. Support for this recitation can be found, for example, at page 11, line 19 to page 13, line 2.

Claims 66, 72, 77 and 80 have been amended to recite an epithelial cell proliferation-modulating "agent" to correct a typographical error.

No new matter has been added by this amendment. The Examiner is hereby requested to enter the amendment.

Applicants submit that all claim amendments presented herein or previously are made solely in the interest of expediting allowance of the claims and should not be interpreted as acquiescence to any rejections or ground of unpatentability. Applicants reserve the right to file at least one continuing application to pursue any subject matter that is canceled or removed from prosecution due to the amendments.

Rejection Under 35 U.S.C. §102

A. The rejection of claims 66-71 under 35 U.S.C. §102(e) as allegedly unpatentable in view of Hall et al. (U.S. Patent No. 6,387,663; hereinafter "the '663 patent") is respectfully traversed for the reasons set forth below.

The standard of anticipation under 35 U.S.C. §102 is that each and every element of the claim must be found in the cited reference. *In re Marshall*, 198 USPQ 344 (CCPA 1978).

Claim 66, as amended, is directed to a fusion polypeptide comprising a collagen-binding domain and an epithelial cell proliferation-modulating agent, wherein the epithelial cell proliferation-modulating agent is selected from the group consisting of hemopoietic growth factors (HeGFs), insulin, nerve growth factor (NGF), NGF receptor, epidermal growth factor (EGF) receptor, neu, inhibin α, inhibin β, Müllerian inhibitory substance, tumor necrosis factor (TNF)-receptor (type 1), TNF-receptor (type 2), platelet-derived growth factor (PDGF) receptor α, PDGF receptor β, wnt-2, hst/ks3, hepatocyte growth factor (HGF) receptor (c-met), stem cell factor (SCF), SCF receptor (c-kit), erythropoietin (epo), epo receptor, and leukemia inhibitory factor.

The '663 patent does not teach each and every element of the claimed invention. The reference teaches fusion proteins containing a collagen binding domain linked to an angiogenesis modulating agent. However, the '663 patent does not specifically teach any of the epithelial cell proliferation-modulating agents enumerated in the Markush group of claim 66. All the other claims under examination require the same Markush group. Therefore, the cited reference does not teach each and every element of any one of the current claims.

Accordingly, the requirement under 35 U.S.C. §102 is not met, and withdrawal of this rejection is respectfully requested.

B. Various claims of the present application stand rejected under 35 U.S.C. §102 as allegedly unpatentable over Hall et al. (U.S. Patent No. 6,955,898), Hall et al. (WO 96/39430), Nishi et al. (Proc. Natl. Acad. Sci. USA 95:7018-7023, 1998) or Gordon et al. (Human Gene

Therapy 8:1385-1394, 1997). Since none of these references teaches any of the epithelial cell proliferation-modulating agents enumerated in the Markush group of the current claims, none of these references discloses each and every element of the claimed invention. Accordingly, the requirement under 35 U.S.C. §102 is not met, and withdrawal of this rejection is respectfully requested.

Rejection Under 35 U.S.C. §103

The rejection of claims 75 and 79 under 35 U.S.C. §103 as allegedly unpatentable over Gordon et al. (Human Gene Therapy 8:1385-1394, 1997) in view of Temin et al. (U.S. Patent No. 4,980,289) is respectfully traversed for the reasons set forth below.

To properly issue a rejection under 35 U.S.C. §103, the USPTO bears the initial burden to establish a *prima facie* case of obviousness by meeting three criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to arrive at the claimed invention. *In re Vaeck*, 20 USPQ 2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. Id. Finally, the prior art reference or the combination of references must teach or suggest all the claim limitations. *In re Royka*, 180 USPQ 580 (CCPA 1974).

The combination of references does not teach or suggest all the elements of the claimed invention. In particular, as discussed above, all the currently pending claims require an epithelial cell proliferation-modulating agents from a specified Markush group. Gordon et al. teach a fusion protein comprising TGF-β1, and Temin et al. teach promoter deficient retroviral vectors, but neither reference teaches or suggests any of the required epithelial cell proliferation-modulating agents. Nor does the combination of references provide a motivation or suggestion to modify the combined teaching to arrive at an invention relating to any of the required epithelial cell proliferation-modulating agents. Therefore, the criteria under 35 U.S.C. 103 are not satisfied.

Accordingly, withdrawal of this rejection is respectfully requested.

Double Patenting

Claims 66-71 stand rejected under 35 U.S.C. 101 as allegedly claiming the same invention as that of claims 1-4 of U.S. Patent No. 6,387,663 ("the '663 patent"). This is a statutory double-patenting rejection.

In determining whether a statutory basis for a double patenting rejection exists, the question to be asked is: Is the same invention being claimed twice? "Same invention" means identical subject matter. *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1984); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957). The test for "same invention" is whether one of the claims could be literally infringed without literally infringing the other. If it could be, the claims do not define the same invention. *In re Vogel*, 422 F.2d at 441, 164 USPQ at 622. If there is an embodiment of the invention that falls within the scope of one claim, but not the other, then identical subject matter is not defined by both claims and statutory double patenting does not exist. For example, the invention defined by a claim reciting a compound having a "halogen" substituent is not identical to or substantively the same as a claim reciting the same compound except having a "chlorine" substituent in place of the halogen because "halogen" is broader than "chlorine." *Id.*; MPEP 804.

The present rejection does not satisfy this test. Claim 1 of the '663 patent reads:

1. A fusion polypeptide comprising:
   a) a collagen binding domain which binds exposed vascular collagen; and
   b) an angiogenesis modulating domain, wherein said angiogenesis modulating domain directly effects endothelial cell proliferation.

Claim 2 of the '663 patent depends from claim 1, further requiring that the collagen binding domain is a collagen binding domain of von Willebrand factor, or conservative variation thereof which retains collagen binding activity. Claim 3 of the '663 patent depends from claim 2, further specifying that the collagen binding domain comprises the decapeptide Trp-Arg-Glu-Pro-Ser-Phe-Met-Ala-Leu-Ser. Claim 4 of the '663 patent depends from claim 1, further reciting that the

angiogenesis modulating domain is selected from the group consisting of a growth factor, growth factor (EGF), hepatocyte growth factor (HGF), platelet derived endothelial cell growth factor (PD-ECGF), platelet derived growth factor (PDGF); insulin-like growth factor (IGF), interleukin-8, growth hormone, angiopoietin, acidic and basic fibroblast growth factors (FGFs), transforming growth factor alpha (TGF-α), vascular endothelial growth factor (VEGF) an enzyme, an enzymatic inhibitor, and an antibody.

The present claims require a specific epithelial cell proliferation-modulating agents from a Markush group, and the Markush group does not include the specific factors named in the claims of the '663 patent. For example, the Markush group of the present claims does not include EGF. Therefore, the claims of the '663 patent can be literally infringed, such as by making a fusion polypeptide comprising EGF, without literally infringing the claims of the present application. Accordingly, no statutory basis for a double patenting rejection exists in this case.

In view of the above, withdrawal of this rejection is respectfully requested.

Conclusions

For the reasons set forth above, Applicants submit that the claims of this application are patentable. Reconsideration and withdrawal of the Examiner's rejections are hereby requested. Allowance of the claims remaining in this application is earnestly solicited.

In the event that a telephone conversation could expedite the prosecution of this application, the Examiner is requested to call the undersigned at (650) 839-5044.

Enclosed is a $60.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: Apr. 7, 2006

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